

CONTENTS

Volume 41 Number 1

January 2011

Role models—implementation-based approaches to using roles Y. E. Selçuk and N. Erdoğan	1
CloudSim: a toolkit for modeling and simulation of cloud computing environments and evaluation of resource provisioning algorithms R. N. Calheiros, R. Ranjan, A. Beloglazov, C. A. F. De Rose and R. Buyya	23
Message filters for hardening the Linux kernel S. Nadella and D. Janakiram	51
Assessing architectural drift in commercial software development: a case study J. Rosik, A. Le Gear, J. Buckley, M. A. Babar and D. Connolly	63
A secure migration process for mobile agents N. S. Malik, D. Ko and H. H. Cheng	87
An integration experience of a software architecture and a monitoring infrastructure to deploy applications with non-functional requirements in computing grids A. Sztajnberg, R. S. Granja, J. Cesário and A. F. A. Monteiro	103
CALL FOR PAPERS	129

Volume 41 Number 2

February 2011

Special Issue

Tool Building in Formal Methods: Extended papers from WS-TBFM 2010

Editorial F. Gervais and B. Fraikin	131
Developing UPPAAL over 15 years G. Behrmann, A. David, K. G. Larsen, P. Pettersson and W. Yi	133
Experiences in developing the mCRL2 toolset J. F. Groote, J. J. A. Keiren, F. P. M. Stappers, J. W. Wesselink and T. A. C. Willemse	143
A model-driven process for engineering a toolset for a formal method P. Arcaini, A. Gargantini, E. Riccobene and P. Scandurra	155
The CoreASM modeling framework R. Farahbod and U. Glässer	167
A retrospective on CZT P. Malik	179

VOLUME CONTENTS

Developing Camille, a text editor for Rodin J. Bendisposto, F. Fritz, M. Jastram, M. Leuschel and I. Weigelt	189
Decomposition tool for Event-B R. Silva, C. Pascal, T. S. Hoang and M. Butler	199

Volume 41 Number 3

March 2011

An advanced certificate validation service and architecture based on XKMS A. Ruiz-Martínez, D. Sánchez-Martínez, C. I. Marn-López, M. Gil-Pérez and A. F. Gómez-Skarmeta	209
SPINE: A domain-specific framework for rapid prototyping of WBSN applications F. Bellifemine, G. Fortino, R. Giannantonio, R. Gravina, A. Guerrieri and M. Sgroi	237
TraceAnalyzer: a system for processing performance traces A. Diwan, M. Hauswirth, T. Mytkowicz and P. F. Sweeney	267
Sharing experiments using open-source software A. Nelson, T. Menzies and G. Gay.	283
Scalable model-based configuration management of security services in complex enterprise networks J. P. de Albuquerque, H. Krumm, P. L. de Geus and R. Jeruschkat	307

Volume 41 Number 4

10 April 2011

Portability in MAC protocol and transceiver software implementations for LR-WPAN platforms A. Schoofs and P. Stanley-Marbell.	339
Empirical evidence about the UML: a systematic literature review D. Budgen, A. J. Burn, O. P. Brereton, B. A. Kitchenham and R. Pretorius	363
Using independence to enable parallelism on multicore computers S. E. Knudsen	393
COIVA: context-aware and ontology-powered information visualization architecture R. Hervás and J. Bravo.	403
Grammar-based test generation with YouGen D. M. Hoffman, D. Ly-Gagnon, P. Strooper and H.-Y. Wang	427
SubCollaboration: large-scale group management in collaborative learning A. Pardo and C. D. Kloos.	449

Volume 41 Number 5**25 April 2011****Special Issue
Practical Aspects of Search-Based Software Engineering**

Editorial	
I. Bate and S. Poulding	467
Evolutionary deployment optimization for service-oriented clouds	
H. Wada, J. Suzuki, Y. Yamano and K. Oba	469
The use of search-based optimization techniques to schedule and staff software projects: an approach and an empirical study	
M. D. Penta, M. Harman and G. Antoniol	495
Automated scheduling for clone-based refactoring using a competent GA	
S. Lee, G. Bae, H. S. Chae, D.-H. Bae and Y. R. Kwon	521
Constraint-based human resource allocation in software projects	
D. Kang, J. Jung and D.-H. Bae	551
Choosing software metrics for defect prediction: an investigation on feature selection techniques	
K. Gao, T. M. Khoshgoftaar, H. Wang and N. Seliya	579

Volume 41 Number 6**May 2011**

Spotting the difference	
M. Lanna and D. Amyot	607
Coloring, a versatile technique for implementing object-oriented languages	
R. Ducournau	627
Perfect class hashing and numbering for object-oriented implementation	
R. Ducournau and F. Morandat	661
ZipfAllocation: an algorithm for static allocation of movies in a cluster of video servers	
S. K. Kim, H. Y. Song and S. Y. Han	695
Fast graph-based instruction selection for multi-output instructions	
J. M. Youn, J. Lee, Y. Paek, J. Lee, H. Scharwaechter and R. Leupers	717

Volume 41 Number 7**June 2011**

Compiler-assisted dynamic scratch-pad memory management with space overlapping for embedded systems	
Y. Yang, H. Yan, Z. Shao and M. Guo	737

VOLUME CONTENTS

Safe, multiphase bounds check elimination in Java A. Gampe, J. von Ronne, D. Niedzielski, J. Vasek and K. Psarris	753
Towards the systematic measurement of ATL transformation models J. B. Tolosa, O. Sanjuán-Martínez, V. García-Díaz, B. C. P. G-Bustelo and J. M. C. Lovelle.	789
Integrating program analyses with programmer productivity tools D. von Dincklage and A. Diwan	817
Monitoring of Probabilistic Timed Property Sequence Charts P. Zhang, W. Li, D. Wan and L. Grunske	841

Volume 41 Number 8

July 2011

Special Issue Agile Product Line Engineering

Editorial Y. Ghanam, K. Cooper and F. Maurer	867
Introducing agile customer-centered development in a legacy software product line J. Bosch and P. M. Bosch-Sijtsema	871
Agile software product line engineering: enabling factors G. K. Hanssen	883
Agile software product lines: a systematic mapping study I. F. da Silva, P. A. da Mota Silveira Neto, P. O'Leary, E. S. de Almeida and S. R. de Lemos Meira	899
Agile product line engineering—a systematic literature review J. Díaz, J. Pérez, P. P. Alarcón and J. Garbajosa	921

Volume 41 Number 9

August 2011

Focus on Agile Software Development

Editorial D. Greer and Y. Hamon	943
Agile methods for open source safety-critical software K. Gary, A. Enquobahrie, L. Ibanez, P. Cheng, Z. Yaniv, K. Cleary, S. Kokoori, B. Muffih and J. Heidenreich	945
User experience design and agile development: managing cooperation through articulation work J. Ferreira, H. Sharp and H. Robinson	963
Measuring the flow in lean software development K. Petersen and C. Wohlin	975

Volume 41 Number 10

September 2011

Special Issue

QSIC 2010: Extended papers from the 10th International Conference on Quality Software

Editorial

J. Wang, W. K. Chan and F.-C. Kuo	997
Scenarios-based testing of systems with distributed ports	
R. M. Hierons, M. G. Merayo and M. Núñez	999
Prioritizing the creation of unit tests in legacy software systems	
E. Shihab, Z. M. Jiang, B. Adams, A. E. Hassan and R. Bowerman	1027
A business process-driven approach for generating software modules	
X. Zhao and Y. Zou	1049
Assuring the model evolution of protocol software specifications by regression testing process improvement	
B. Jiang, T. H. Tse, W. Grieskamp, N. Kicillof, Y. Cao, X. Li and W. K. Chan	1073
Prioritizing tests for software fault diagnosis	
A. Gonzalez-Sanchez, É. Piel, R. Abreu, H.-G. Gross and A. J. C. van Gemund	1105
Adaptive random testing through test profiles	
H. Liu, X. Xie, J. Yang, Y. Lu and T. Y. Chen	1131

Volume 41 Number 11

October 2011

Integrated implementation of dynamic untyped object-based operator overloading	
A. Savidis	1155
Using meta-modeling in design and implementation of component-based systems: the SOFA case study	
P. Hnětynka and F. Plášil	1185
Advantages of online spellchecking: a Croatian example	
Š. Dembitz, M. Randić and G. Gledec	1203
Experience with fault injection experiments for FMEA	
L. Grunske, K. Winter, N. Yatapanage, S. Zafar and P. A. Lindsay	1233
Isolating bugs in multithreaded programs using execution suppression	
D. Jeffrey, Y. Wang, C. Tian and R. Gupta	1259
A group-oriented secure multiagent platform	
J. M. Such, J. M. Alberola, A. Espinosa and A. Garcia-Fornes	1289
An approach to optimization of fault tolerant architectures using HiP-HOPS	
M. Adachi, Y. Papadopoulos, S. Sharvia, D. Parker and T. Tohdo	1303

A practical use of model checking for synthesis: generating a dam controller for flood management M. M. Gallardo, P. Merino, L. Panizo and A. Linares	1329
DOLAR: virtualizing heterogeneous information spaces to support their expansion K. Saidis, Y. Smaragdakis and A. Delis	1349

Volume 41 Number 12 November/December 2011

Special Issue

Component and Service-Oriented Distributed Embedded Real-Time Systems: Extended Papers from ISORC 2010

Editorial R. Obermaisser	1385
A scheme for reliable real-time messaging with bounded delays K.-H. Kim, J. Qian, Z. Zhang, Q. Zhou, K.-D. Moon, J.-H. Park, K.-R. Park and D.-H. Kim	1387
Non-functional information transmission patterns for distributed real-time Java P. Basanta-Val, M. Garcia-Valls and I. Estevez-Ayres	1409
Approximating Pareto optimal compiler optimization sequences—a trade-off between WCET, ACET and code size P. Lokuciejewski, S. Plazar, H. Falk, P. Marwedel and L. Thiele	1437
Dynamic policy-driven quality of service in service-oriented information management systems J. P. Loyall, M. Gillen, A. Paulos, L. Bunch, M. Carvalho, J. Edmondson, D. C. Schmidt, A. Martignoni III and A. Sinclair	1459
The Real-Time Systems Compiler: migrating event-triggered systems to time-triggered systems F. Scheler and W. Schröder-Preikschat	1491
A component model for hard real-time systems: CCM with ARINC-653 A. Dubey, G. Karsai and N. Mahadevan	1517

Indexed or abstracted by

ANTE: Abstracts in New Technologies & Engineering (CSA/CIG), Applied Science & Technology Index/Abstracts (HW Wilson), Cambridge Scientific Abstracts (CSA/CIG), COMPENDEX (Elsevier), CompuMath Citation Index® (Thomson ISI), CompuScience Database (Fiz Karlsruhe), Computer Abstracts International Database (Emerald), Computer Science Index (EBSCO), Computing Reviews (ACM), CSA Technology Research Database (CSA/CIG), Current Contents®/Engineering, Computing & Technology (Thomson ISI), Current Index to Statistics (ASA/IMS), INSPEC (IET), ISTA: Information Science & Technology Abstracts (EBSCO), Journal Citation Reports/Science Edition (Thomson ISI), Science Citation Index Expanded™ (Thomson ISI), SCOPUS (Elsevier), Web of Science® (Thomson ISI).

